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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,895	02/11/2002	Arito Asai	5-071US-FF	3549

7590 08/01/2006

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EXAMINER	
TRUONG, CAM Y T	
ART UNIT	**PAPER NUMBER**
2162	

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/068,895	ASAI ET AL.	
	Examiner	Art Unit	
	Cam Y T. Truong	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6-14 and 20-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2, 6-14, 20-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant has amended claims 1, 6, 7, and added claims 20-28 in the amendment filed on 5/15/2006.

Claims 1-2, 6-14, 20-28 are pending in this Office Action.

Double Patenting

2. Claim 20 is objected to under 37 CFR 1.75 as being a substantial duplicate of claims 1 and 2. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 20 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed limitation "a first interface for sparably and directly connecting, without via a network, said search device and said command execution device, wherein upon.....said other search device and said command execution device" in

claims 1, lines 9-13, claim 20, lines 8-10, lines 19-21, claim 28, lines 9-13, was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The dependent claims are rejected under the same rational.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 9, 10 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Vora et al (or hereinafter "Vora") (US 5819273).

As to claim 1, Vora teaches a database system (fig. 1, col. 6, lines 37-43) comprising:

"a database in which data has been stored accessibly" as the mass memory device 17 of the server computer system 9 stores text documents, which may include other information such as graphics. These text documents are searched and retrieved by users of computer system 33. The mass memory is represented as a database (fig. 1, col. 6, lines 37-43);

"a search device for accessing the database in accordance with an applied search command and searching data that has been stored in said database" as processor 10 of the server 9 receives a search request from the processor 37 of the computer system 33 to search documents stored in mass memory 17 by using a search and indexing engine 207. The search and indexing engine 207 is represented as a search device. The search request is presented as a search command (fig. 1, col. 6, lines 48-55);

"a command execution device, to which a command is entered, for applying a search command to said search device in accordance with this entered command" as the computer system 33 allows a user to define a search request by typing into a keyboard keywords. The search request is performed by typically selecting an option representing a start search command, which is displayed on the display device 47. At this point, the processor 37 of computer system 33 sends this search request over the network through network interface 35 and network interface 25 to processor 10 of server 9. The above information shows that the processor 10 of server 9 executes the search request by sending the search request to processor 10 in accordance with selected start search command. Thus, the processor 10 is presented as a command execution device. A start search command is represented as an entered command (fig. 1, col. 6, lines 40-55);

"a first interface for separably connecting, without via a network, said search device and said command execution device" as interface 31 is connected to processor 10 and search engine 207 that is stored in memory 11 without via a

network (fig. 1).

"wherein said search device ....said command execution device" as (col. 6, lines 55-67).

As to claim 9, Vora teaches the claimed limitation "a command receiving device for receiving the entered command from a client" as (col. 6, lines 55-67).

As to claim 10, Vora teaches the claimed limitation "a command resending device for transmitting the entered command to another database server" as (col. 6, lines 55-67).

Claim 28 is rejected under the same reason as discussed in claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 2 (20; 23, 24) is rejected under 35 U.S.C. 103(a) as being unpatentable over Vora et al (or hereinafter "Vora") (US 5819273) in view of Sanada et al (or hereinafter "Sanada") (US 6484245).

As to claim 2, Vora further teaches "a storage device for storing data readably" as information storage devices coupled to server 63 for storing data. This data is searched and retrieved through by searching software on server 63 (col. 6, lines 58-59).

Vora does not explicitly teach the claimed limitation "a storage controller for accessing said storage device and reading data that has been stored in said storage device or writing data to said storage device in accordance with an applied read/write command; and a second interface for separably connecting said storage controller and said command execution device; said command execution device applying a read/write command to said storage controller in accordance with the entered command".

Sanada teaches the above claimed limitations:

"a storage controller for accessing said storage device and reading data that has been stored in said storage device or writing data to said storage device in accordance with an applied read/write command" as the storage controller 40 controls accessing to the disk array for reading data from there upon receipt of read command information from host computer 10 (fig. 1, col. 5, lines 9-10; col. 6, lines 1-8);

"and a second interface for separably connecting said storage controller and said command execution device" as Fibber Channel Fabric as an interface for separably connecting the storage controller and the host computer 10. Because the host computer 10 generates an access request and then executes the access request by sending access request to the microprocessor of the

storage controller; thus, the host computer is represented as command execution device (fig. 1, col. 5, lines 35-37; col. 6, lines 1-3);

" said command execution device applying a read/write command to said storage controller in accordance with the entered command" as the host computer can applies a read command or write command to microprocessor of the storage controller. The above information implies that the host computer has included a command to can send a read or a write command to the microprocessor of the storage controller. This command is represented as the entered command (col. 5, lines 45-55; col. 6, lines 1-3).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Sanada's teaching of using storage controller to control subsystem 50 for reading data, Fibber Channel Fabric for connecting the storage controller and the host computer 10, and applying a read command from the host computer 10 to the storage controller to Vora's system in order to improve the integrity of Vora's system by allowing a user to access a storage device for reading or writing stored data in the storage device and further eliminating unauthorized access attempts from the host computers to the storage control device.

Claim 20 is rejected under the same reason as discussed in claims 1 and 2.

As to claim 23, Vora teaches the claimed limitation "a command receiving device for receiving the entered command from a client" as (fig. 4).

As to claim 24, Vora teaches the user search request is transferred to another database server (col. 6, lines 55-67).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vora in view of Cecchini.

As to claim 7, Vora and Cecchini teaches the claimed limitation in claim 1, Cecchini further teaches the claimed limitation "wherein said search device employs a search technique different than a search technique of said second search device". Cecchini teaches the search engine 1 employs a search technique different than a search technique of the search engine 2 (col. 5, lines 1-35). It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Cecchini's teaching of the search engine 1 employs a search technique different than a search technique of the search engine 2 to Vora's system in order to provide a new pathway to enhance the unsuccessful stem search.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vora in view of Collby (US 6480836).

As to claim 8, Vora discloses the claimed limitation subject matter in claim 1, except the claimed limitation "a relational database management system

containing attribute information corresponding to said data, wherein said relational data management system is searchable by said search device". Collby teaches a relational database contains attributes corresponding to search request and relational database is searchable by a search engine (abstract, col. 1, lines 25-45).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Collby's teaching of a relational database contains attributes corresponding to search request and relational database is searchable by a search engine to Vora's system in order to search/retrieve a particular field of a record in a relational database.

11. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vora in view of Sanada et al (or hereinafter "Sanada") (US 6484245) and further in view of Dekoning (US 6671776).

As to claim 11, Vora and Sanada disclose the claimed limitation subject matter in claim 2, except the claimed limitation "wherein said storage controller is replaceable by a second controller upon separation from said command execution device". DeKoning teaches each **RAID** controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers (col. 4, lines 17-20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKoning teaching of each RAID controller in the data storage system may be replaced with **PCI RAID** controllers

or other low end RAID controllers to Vora's system and Sanada's system in order to transmit or execute command when one controller fail, a host system may still access the drive through the remaining controller.

As to claim 12, Vora and Sanada disclose the claimed limitation subject matter in claim 11, except the claimed limitation "wherein said second storage controller is different than said storage controller". DeKoning teaches each RAID controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers (col. 4, lines 17--20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKoning teaching of each RAID controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers to Vora's system and Sanada's system in order to transmit or execute command when one controller fail, a host system may still access the drive through the remaining controller.

12. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vora in view of Sanada et al (or hereinafter "Sanada") (US 6484245) and Lee et al (or hereinafter "6061696).

As to claim 13, Vora and Sanada disclose the claimed limitation subject matter in claim 2, except the claimed limitation "an expression-format converter for generating data having a desired expression format when it is determined that data having the desired expression format is not stored in the database".

Lee teaches the converted format of the object can be stored as a local file apart from the file containing the native format version which is maintained in an original file in the same or different directory. The above information shows that the system has determined that the data having the desired format is not stored in the database; thus, the system converts the format of file or object and store the converted format of file into the same or different directory (col. 3, lines 1-5).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Lee's teaching of the converted format of the object can be stored as a local file apart from the file containing the native format version which is maintained in an original file in the same or different directory to Vora and Sanada in order to allow a user to view a data in her own system and further to store data following database format.

As to claim 14, Vora, Sanada and Lee disclose the claimed limitation subject in claim 13, Vora further teaches the claimed limitation "wherein said expression-format converter is separably connected to said command execution device by said second device" as (fig. 9, col. 8, lines 5-20).

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over vora in view of Sanada and Cecchini.

As to claim 21, Vora and Cecchini teaches the claimed limitation in claim 20, Cecchini further teaches the claimed limitation "wherein said search device employs a search technique different than a search technique of said second

search device". Cecchini teaches the search engine 1 employs a search technique different than a search technique of the search engine 2 (col. 5, lines 1-35). It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Cecchini's teaching of the search engine 1 employs a search technique different than a search technique of the search engine 2 to Vora's system in order to provide a new pathway to enhance the unsuccessful stem search.

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vora in view of Sanada and Collby (US 6480836).

As to claim 22, Vora discloses the claimed limitation subject matter in claim 20, except the claimed limitation "a relational database management system containing attribute information corresponding to said data, wherein said relational data management system is searchable by said search device". Collby teaches a relational database contains attributes corresponding to search request and relational database is searchable by a search engine (abstract, col. 1, lines 25-45).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Collby's teaching of a relational database contains attributes corresponding to search request and relational database is searchable by a search engine to Vora 's system in order to search/retrieve a particular field of a record in a relational database.

11. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vora in view of Sanada et al (or hereinafter "Sanada") (US 6484245) and further in view of Dekoning (US 6671776).

As to claim 25, Vora and Sanada disclose the claimed limitation subject matter in claim 20, except the claimed limitation "wherein said storage controller is replaceable by a second controller upon separation from said command execution device". DeKoning teaches each **RAID** controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers (col. 4, lines 17-20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKoning teaching of each RAID controller in the data storage system may be replaced with **PCI RAID** controllers or other low end RAID controllers to Vora 's system and Sanada's system in order to transmit or execute command when one controller fail, a host system may still access the drive through the remaining controller.

As to claim 26, Vora and Sanada disclose the claimed limitation subject matter in claim 20, except the claimed limitation "wherein said second storage controller is different than said storage controller". DeKoning teaches each RAID controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers (col. 4, lines 17--20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKoning teaching of each RAID

controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers to Vora 's system and Sanada's system in order to transmit or execute command when one controller fail, a host system may still access the drive through the remaining controller.

5. Claims 1, 9-10 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes et al (or hereinafter "Hanes") (US 6466952) in view of Vora.

As to claim 1, Hanes teaches a database system (fig. 1) comprising:

"a database in which data has been stored accessibly" as the local hard drive 10 14 in which files has been stored accessibly (fig. 1, col. 7, lines 35-50);

"a search device for accessing the database in accordance with an applied search command and searching data that has been stored in said database" as search function 36 obtains 51 a search request comprising a set of search fields can include text, portions of bitmaps, audio format information. Search function 36 then searches the local hard drive 10, for keys that contain the search fields. The search function 36 is stored in program memory 6. The program memory 6 of the search function 36 is represented as a search device (fig. 1, col. 7, lines 37-50; col. 5, lines 40-45);

"a command execution device, to which a command is entered, for applying a search command to said search device in accordance with this entered command" as a processor executes the search request to search function 36 in accordance with search icon or search command. The search

function 36 is represented as a search device (figs. 1&4, col. 8, lines 36-42; col. 7, lines 37-50);

"a first interface for separably connecting, without via a network, said search device and said command execution device" as interface 5 for separably connecting, without via a network, the processor 4 and the search function 36 (fig. 1).

Hanes does not explicitly teach the claimed limitation "wherein said search device is replaceable by another search device upon separation of said search device from said first interface, wherein upon replacement of said search device by said other search device, said first interface separably and directly connects, without via a network, said other search device and said command execution device".

Vora teaches search device 63 is replaceable by search device 9 (col. 6, lines 55-65).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Vora's teaching of search device 63 is replaceable by search device 9 to Hanes's system in order to order to search/retrieve data in different server accurately and further improve content management for search in glretrieving data over data network without traffic.

As to claim 9, Hanes teaches the claimed limitation "a command receiving device for receiving the entered command from a client" as (fig. 4).

As to claim 10, Hanes does not explicitly "a command resending device for transmitting the entered command to another database server". Vora teaches the user search request is transferred to another database server (col. 6, lines 55-67).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Vora's teaching of teaches the user search request is transferred to another database server to Hanes's system in order to allow a user to be able to search remote databases on a network system and further provide the most relevance result to a user based on user's request.

Claim 28 is rejected under the same reason as discussed in claim 1.

7. Claims 2, 20, 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes in view of Vora and Sanada et al (or hereinafter "Sanada") (US 6484245).

As to claim 2, Hanes further teaches "a storage device for storing data readably" as information storage devices coupled to server 63 for storing data. This data is searched and retrieved through by searching software on server 63 (col. 6, lines 58-59).

Hanes does not explicitly teach the claimed limitation "a storage controller for accessing said storage device and reading data that has been stored in said storage device or writing data to said storage device in accordance with an

applied read/write command; and a second interface for separably connecting said storage controller and said command execution device; said command execution device applying a read/write command to said storage controller in accordance with the entered command".

Sanada teaches the above claimed limitations:

"a storage controller for accessing said storage device and reading data that has been stored in said storage device or writing data to said storage device in accordance with an applied read/write command" as the storage controller 40 controls accessing to the disk array for reading data from there upon receipt of read command information from host computer 10 (fig. 1, col. 5, lines 9-10; col. 6, lines 1-8);

"and a second interface for separably connecting said storage controller and said command execution device" as Fibber Channel Fabric as an interface for separably connecting the storage controller and the host computer 10. Because the host computer 10 generates an access request and then executes the access request by sending access request to the microprocessor of the storage controller; thus, the host computer is represented as command execution device (fig. 1, col. 5, lines 35-37; col. 6, lines 1-3);

" said command execution device applying a read/write command to said storage controller in accordance with the entered command" as the host computer can applies a read command or write command to microprocessor of the storage controller. The above information implies that the host computer has included a command to can send a read or a write command to the

microprocessor of the storage controller. This command is represented as the entered command (col. 5, lines 45-55; col. 6, lines 1-3).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Sanada's teaching of using storage controller to control subsystem 50 for reading data, Fibber Channel Fabric for connecting the storage controller and the host computer 10, and applying a read command from the host computer 10 to the storage controller to Hanes's system in order to improve the integrity of Hanes's system by allowing a user to access a storage device for reading or writing stored data in the storage device and further eliminating unauthorized access attempts from the host computers to the storage control device.

Claim 20 is rejected under the same reason as discussed in claims 1 and 2.

As to claim 23, Hanes teaches the claimed limitation "a command receiving device for receiving the entered command from a client" as (fig. 4).

As to claim 24, Hanes does not explicitly "a command resending device for transmitting the entered command to another database server". Vora teaches the user search request is transferred to another database server (col. 6, lines 55-67).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Vora's teaching of teaches the user search request is transferred to another database server to Hanes's system in order to allow a user to be able to search remote databases on a network system and further provide the most relevance result to a user based on user's request.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes in view of Vora and further in view of Cecchini.

As to claim 7, Hanes and Cecchini teaches the claimed limitation in claim 1, Cecchini further teaches the claimed limitation "wherein said search device employs a search technique different than a search technique of said second search device". Cecchini teaches the search engine 1 employs a search technique different than a search technique of the search engine 2 (col. 5, lines 1-35). It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Cecchini's teaching of the search engine 1 employs a search technique different than a search technique of the search engine 2 to Hanes's system in order to provide a new pathway to enhance the unsuccessful stem search.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes in view of Vora and further in view of Collby (US 6480836).

As to claim 8, Hanes discloses the claimed limitation subject matter in claim 1, except the claimed limitation "a relational database management system

containing attribute information corresponding to said data, wherein said relational data management system is searchable by said search device". Collby teaches a relational database contains attributes corresponding to search request and relational database is searchable by a search engine (abstract, col. 1, lines 25-45).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Collby's teaching of a relational database contains attributes corresponding to search request and relational database is searchable by a search engine to Hanes's system in order to search/retrieve a particular field of a record in a relational database.

11. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes in view of Vora and further in view of Sanada et al (or hereinafter "Sanada") (US 6484245) and further in view of Dekoning (US 6671776).

As to claim 11, Hanes and Sanada disclose the claimed limitation subject matter in claim 2, except the claimed limitation "wherein said storage controller is replaceable by a second controller upon separation from said command execution device". DeKoning teaches each **RAID** controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers (col. 4, lines 17-20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKoning teaching of each RAID controller in the data storage system may be replaced with **PCI RAID** controllers

or other low end RAID controllers to Hanes's system and Sanada's system in order to transmit or execute command when one controller fail, a host system may still access the drive through the remaining controller.

As to claim 12, Hanes and Sanada disclose the claimed limitation subject matter in claim 11, except the claimed limitation "wherein said second storage controller is different than said storage controller". DeKoning teaches each RAID controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers (col. 4, lines 17--20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKoning teaching of each RAID controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers to Hanes's system and Sanada's system in order to transmit or execute command when one controller fail, a host system may still access the drive through the remaining controller.

12. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes in view of Vora and further in view of Sanada et al (or hereinafter "Sanada") (US 6484245) and Lee et al (or hereinafter "6061696).

As to claim 13, Hanes and Sanada disclose the claimed limitation subject matter in claim 2, except the claimed limitation "an expression-format converter for generating data having a desired expression format when it is determined that data having the desired expression format is not stored in the database".

Lee teaches the converted format of the object can be stored as a local file apart from the file containing the native format version which is maintained in an original file in the same or different directory. The above information shows that the system has determined that the data having the desired format is not stored in the database; thus, the system converts the format of file or object and store the converted format of file into the same or different directory (col. 3, lines 1-5).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Lee's teaching of the converted format of the object can be stored as a local file apart from the file containing the native format version which is maintained in an original file in the same or different directory to Hanes and Sanada in order to allow a user to view a data in her own system and further to store data following database format.

As to claim 14, Hanes, Sanada and Lee disclose the claimed limitation subject in claim 13, Hanes further teaches the claimed limitation "wherein said expression-format converter is separably connected to said command execution device by said second device" as (fig. 9, col. 8, lines 5-20).

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes in view of Vora and further in view of Sanada and Cecchini.

As to claim 21, Hanes and Cecchini teaches the claimed limitation in claim 20, Cecchini further teaches the claimed limitation "wherein said search device employs a search technique different than a search technique of said second

search device". Cecchini teaches the search engine 1 employs a search technique different than a search technique of the search engine 2 (col. 5, lines 1-35). It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Cecchini's teaching of the search engine 1 employs a search technique different than a search technique of the search engine 2 to Hanes's system in order to provide a new pathway to enhance the unsuccessful stem search.

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes in view of Vora and further in view of Sanada and Collby (US 6480836).

As to claim 22, Hanes discloses the claimed limitation subject matter in claim 20, except the claimed limitation "a relational database management system containing attribute information corresponding to said data, wherein said relational data management system is searchable by said search device". Collby teaches a relational database contains attributes corresponding to search request and relational database is searchable by a search engine (abstract, col. 1, lines 25-45).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Collby's teaching of a relational database contains attributes corresponding to search request and relational database is searchable by a search engine to Hanes's system in order to search/retrieve a particular field of a record in a relational database.

11. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes in view of Vora and further in view of Sanada et al (or hereinafter "Sanada") (US 6484245) and further ire view of Dekoning (US 6671776).

As to claim 25, Hanes and Sanada disclose the claimed limitation subject matter in claim 20, except the claimed limitation "wherein said storage controller is replaceable by a second controller upon separation from said command execution device". DeKoning teaches each **RAID** controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers (col. 4, lines 17-20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKoning teaching of each RAID controller in the data storage system may be replaced with **PCI RAID** controllers or other low end RAID controllers to Hanes's system and Sanada's system in order to transmit or execute command when one controller fail, a host system may still access the drive through the remaining controller.

As to claim 26, Hanes and Sanada disclose the claimed limitation subject matter in claim 20, except the claimed limitation "wherein said second storage controller is different than said storage controller". DeKoning teaches each RAID controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers (col. 4, lines 17--20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply DeKoning teaching of each RAID controller in the data storage system may be replaced with PCI RAID controllers or other low end RAID controllers to Hanes's system and Sanada's system in order to transmit or execute command when one controller fail, a host system may still access the drive through the remaining controller.

13. Claims 6 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanes in view of Vora and further in view of Sanada et al (or hereinafter "Sanada") (US 6484245) and Dekoning and Matsumoto et al (or hereinafter "Matsumoto") (US 5720028).

As to claim 6, Hanes does not explicitly teach "upon replacement of said storage controller by said second storage controller, said second interface separably connects, said second storage controller and said command execution device". Matsumoto teaches the above claimed limitation in (col. 25, lines 30; 45-50).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Matsumoto's teaching of replacing a storage controller by another storage controller to Hanes's system in order to improve reliability by using multiple storage controllers (col. 1, lines 55-67).

Claim 27 is rejected under the same reason as discussed in claim 6.

14. Claims 6 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vora in view of Sanada et al (or hereinafter "Sanada") (US 6484245) and Dekoning and Matsumoto et al (or hereinafter "Matsumoto") (US 5720028).

As to claim 6, Vora does not explicitly teach "upon replacement of said storage controller by said second storage controller, said second interface separably connects, said second storage controller and said command execution device". Matsumoto teaches the above claimed limitation in (col. 25, lines 30; 45-50).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Matsumoto's teaching of replacing a storage controller by another storage controller to Vora's system in order to improve reliability by using multiple storage controllers (col. 1, lines 55-67).

Claim 27 is rejected under the same reason as discussed in claim 6.

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam Y T. Truong whose telephone number is (571) 272-4042. The examiner can normally be reached on Monday to Firday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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